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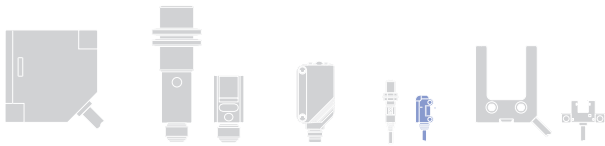
Photoelectric sensor in miniature plastic housing

Small sized photoelectric sensors in flat and side view shape for demanding mounting conditions.

- Small size with precision pinpoint LED where space is crucial
- 3.5 mm flat model with reliable background suppression and small black/white error
- Unique optical alignment technology ensuring minimal deviation of optical axis
- High EMC and ambient light immunity



Special models | M18 cylindrical | Compact | Miniature | Fork

Ordering information

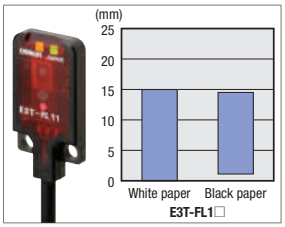
Sensor type	Sensing distance	Connection method				Operation mode	Mounting screw size	Order code[*1]	
								NPN output	PNP output
Through-beam	2 m	–	–	2 m	For ordering pigtail versions replace '2M' of cable types with: - M1J: M12 with 30 cm cable - M3J: M8 4-pin with 30 cm cable - M5J: M8 3-pin with 30 cm cable	Light-ON	M2	E3T-ST31 2M	E3T-ST33 2M
						Dark-ON	M2	E3T-ST32 2M	E3T-ST34 2M
	1 m					Light-ON	M2	E3T-ST11 2M	E3T-ST13 2M
							M3	E3T-ST11M 2M	E3T-ST13M 2M
						Dark-ON	M2	E3T-ST12 2M	E3T-ST14 2M
							M3	E3T-ST12M 2M	E3T-ST14M 2M
	300 mm					Light-ON	M2	E3T-ST21 2M	E3T-ST23 2M
							M3	E3T-ST21M 2M	E3T-ST23M 2M
						Dark-ON	M2	E3T-ST22 2M	E3T-ST24 2M
							M3	E3T-ST22M 2M	E3T-ST24M 2M
Through-beam	500 mm					Light-ON	M2	E3T-FT11 2M	E3T-FT13 2M
						Dark-ON	M2	E3T-FT12 2M	E3T-FT14 2M
	300 mm					Light-ON	M2	E3T-FT21 2M	E3T-FT23 2M
						Dark-ON	M2	E3T-FT22 2M	E3T-FT24 2M
Retro-reflective	30 to 200 mm[*2] on reflectors/ 10 to 100 mm[*2] on reflective foils					Light-ON	M2	E3T-SR41-C 2M[*3]	E3T-SR43-C 2M[*3]
						Dark-ON	M2	E3T-SR42-C 2M[*3]	E3T-SR44-C 2M[*3]
Diffuse-reflective	5 to 30 mm					Light-ON	M2	E3T-FD11 2M	E3T-FD13 2M
							M3	E3T-FD11M 2M	E3T-FD13M 2M
						Dark-ON	M2	E3T-FD12 2M	E3T-FD14 2M
							M3	E3T-FD12M 2M	E3T-FD14M 2M
Limited-reflective	5 to 15 mm					Light-ON	M2	E3T-SL11 2M	E3T-SL13 2M
							M3	E3T-SL11M 2M	E3T-SL13M 2M
						Dark-ON	M2	E3T-SL12 2M	E3T-SL14 2M
							M3	E3T-SL12M 2M	E3T-SL14M 2M
	5 to 30 mm					Light-ON	M2	E3T-SL21 2M	E3T-SL23 2M
							M3	E3T-SL21M 2M	E3T-SL23M 2M
						Dark-ON	M2	E3T-SL22 2M	E3T-SL24 2M
							M3	E3T-SL22M 2M	E3T-SL24M 2M
Diffuse-reflective (background suppression)	1 to 15 mm					Light-ON	M2	E3T-FL11 2M	E3T-FL13 2M
						Dark-ON	M2	E3T-FL12 2M	E3T-FL14 2M
	1 to 30 mm					Light-ON	M2	E3T-FL21 2M	E3T-FL23 2M
						Dark-ON	M2	E3T-FL22 2M	E3T-FL24 2M

[*1] For pre-wired models with robotic cables add '-R' to the order code (example: E3T-FT21R 2M)
[*2] The distances are measured with reflector E39-R4 and reflective foil E39-R37-CA. For applications with shorter distances between the sensor and the reflector contact your OMRON representative.
[*3] Order reflector separately. Models with included reflectors are available.

Specifications

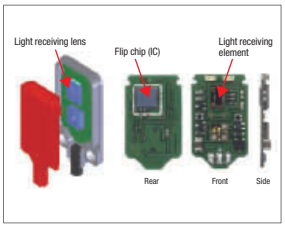
Item		Through-beam		Retro-reflective
		Side-view	Flat	Side-view
		E3T-ST1 E3T-ST2 E3T-ST3	E3T-FT1 E3T-FT2	E3T-SR4
Sensing distance		E3T-ST3_: 2 m E3T-ST1_: 1 m E3T-ST2_: 300 mm	E3T-FT1_: 500 mm E3T-FT2_: 300 mm	30 to 200 mm (with E39-R4) 10 to 100 mm (with E39-R37-CA)
Light source (wave length)		Red LED ("Pin-point" LED) λ = 650 nm		
Power supply voltage		12 to 24 VDC ±10%, ripple (p-p) 10% max.		
Protective circuits		Power supply and control output reverse polarity protection Output short-circuit protection		Power supply and control output reverse polarity protection Output short-circuit protection, mutual interference prevention, surge suppressor
Response time		1 ms max.		
Ambient temperature	Operating	-25 to 55°C (with no icing or condensation)		
	Storage	-40 to 70°C (with no icing or condensation)		
Degree of protection		IEC60529 IP67		
Material	Case	PBT (polybutylene terephthalate)		
	Display window	Denatured polyarylate		
	Lens	Denatured polyarylate		Methacrylic resin

Item		Diffuse-reflective	Limited-reflective		Diffuse-reflective (background suppression)	
		Flat	Side-view		Flat	
		E3T-FD1	E3T-SL1	E3T-SL2	E3T-FL1	E3T-FL2
Sensing distance		5 to 30 mm	5 to 15 mm	5 to 30 mm	1 to 15 mm	1 to 30 mm
Black/white error		–			15% max.	
Light source (wave length)		Red LED ("Pin-point" LED) λ = 650 nm				
Power supply voltage		12 to 24 VDC ±10%, ripple (p-p) 10% max.				
Protective circuits		Power supply and control output reverse polarity protection Output short-circuit protection, Mutual interference prevention				
Response time		1 ms max.				
Ambient temperature	Operating	-25 to 55°C				
	Storage	-40 to 70°C (with no icing or condensation)				
Degree of protection		IEC60529 IP67				
Material	Case	PBT (polybutylene terephthalate)				
	Display window	Denatured polyarylate				
	Lens	Denatured polyarylate				



Minimal black / white error

The coaxial optics and the small focal lens of the retro-reflective models allow the detection of small (dia 2 mm) objects or through small holes (dia 2 mm).



The unique light receiving lens shape and the chip mounting technology, provide appropriate sensing distances for very precise and reliable detection even through smallest slits and gaps with e.g. 0.5 mm dia.

Models with mounting holes for M2 or M3 screws

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Product	Code	Reference	Product link
Extension cable for E6C2-A/E6C3-A/E6CP/E6F encoders, 15m	128550		Buy on EAN
Servos, Reducer 1/30 AE120 reduction R88MK1K020F	393272	AE120M1-i-30-R88MK1K020F	Buy on EAN
Low Voltage Switchgear, 11KW / 22A / AC · / 1NC	367358	J7KN-22D-01 110	Buy on EAN
Vision System, Lighting DCM	357758	DKL3223A-630C	Buy on EAN
Sensor Connector, female, M12, PUR, 5 Pin, Angled, 5M	206555		Buy on EAN
Industrial Career Final / Push buttons, PUSH / MUSHROOM EMERGENCY	140716	A3DJ-500GY	Buy on EAN
	167830		Buy on EAN
Security Product, Metallic IP67 1NC / 1NO Plunger Roldana 1m vert.	134004	D4F-102-1D	Buy on EAN
Photoelectric sensor, retroreflective, 4m, DC, 3-wire, NPN, 2m cable (requires reflector & bracket)	156505		Buy on EAN
	231263		Buy on EAN
E / S Remote, 2 wires 32S receiver E / S 19.2ms NPN HOLD	137166	B7A-R3A13	Buy on EAN
	206167		Buy on EAN
Industrial Relays, DPDT 15A Load DC Housing Indic Enchuf Octal	114710	MM2XPN 24DC	Buy on EAN
	128178	E6C3-CWZ3EH 3600P/R 2M	Buy on EAN

	358292		Buy on EAN
	358293		Buy on EAN
	358290		Buy on EAN
Security Product, Metallic IP67 1NC / 1NO 3m Lever Roldana vert.	156891	D4F-120-3D	Buy on EAN
	166379		Buy on EAN